

Online Appendix for “Disparities in Native American Age at Death in the United States”

October 31, 2021

A. ADDITIONAL FIGURES AND TABLES

Figure A1: Distribution of the White American Male to Female ratio

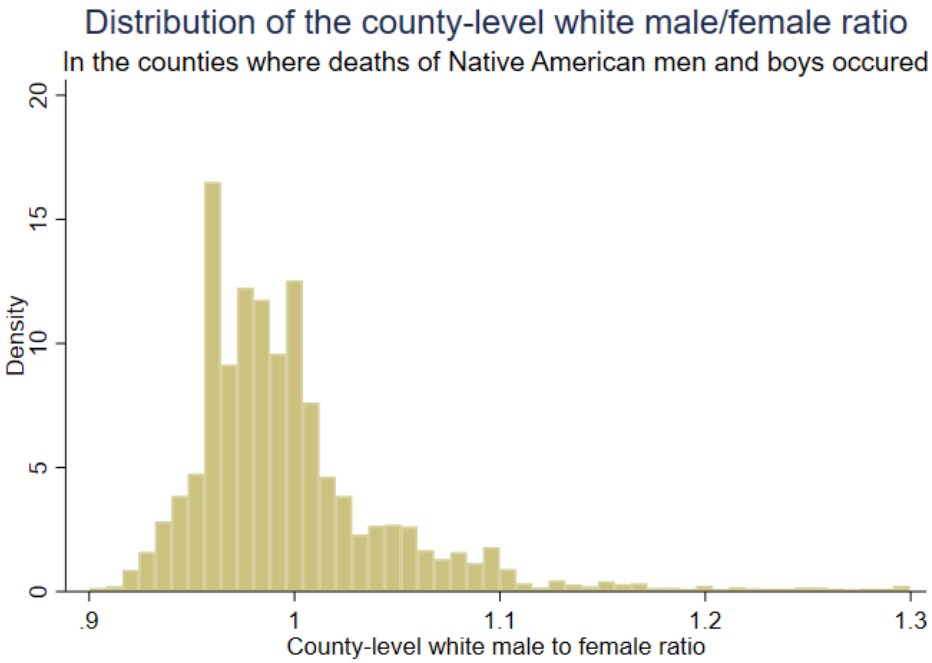
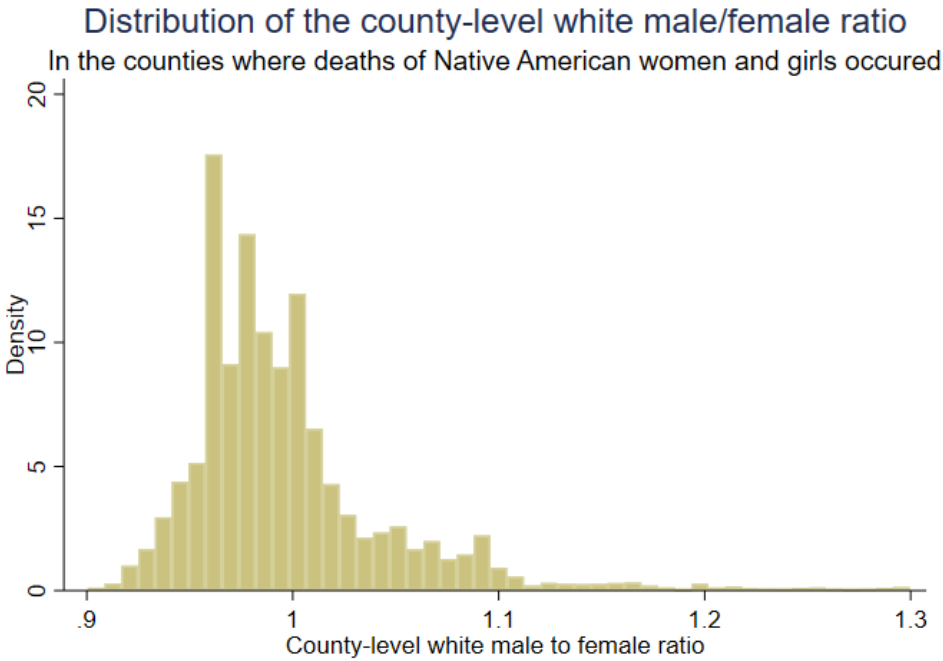
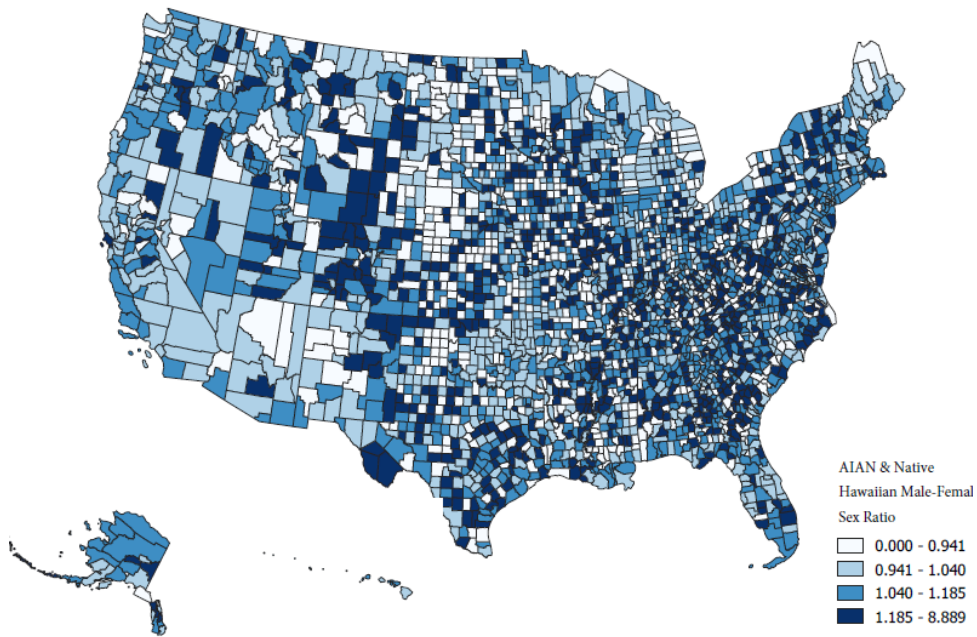
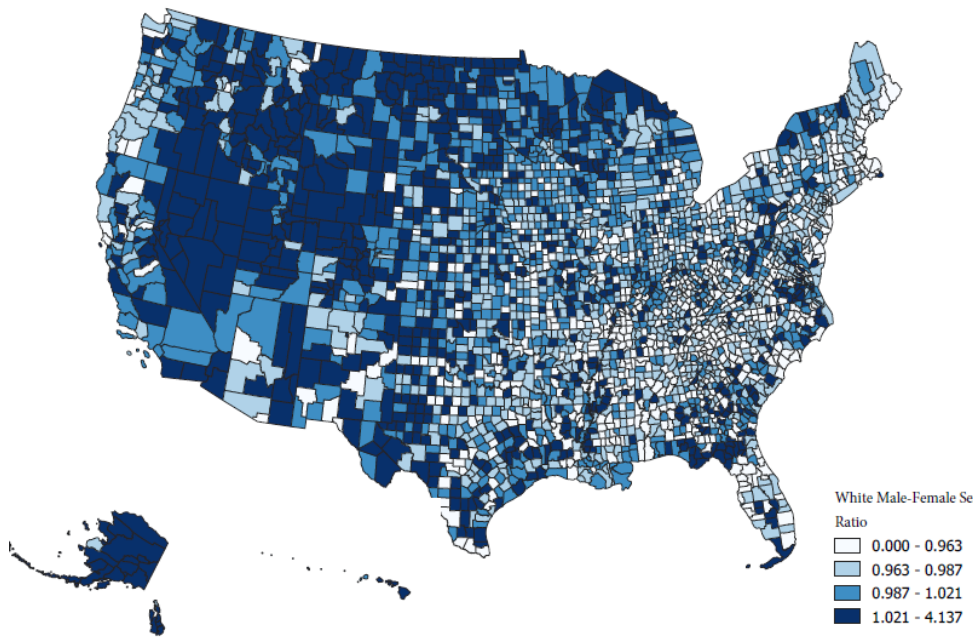


Figure A2: Geographic Distribution of Male-Female Ratio by County in 2017 :



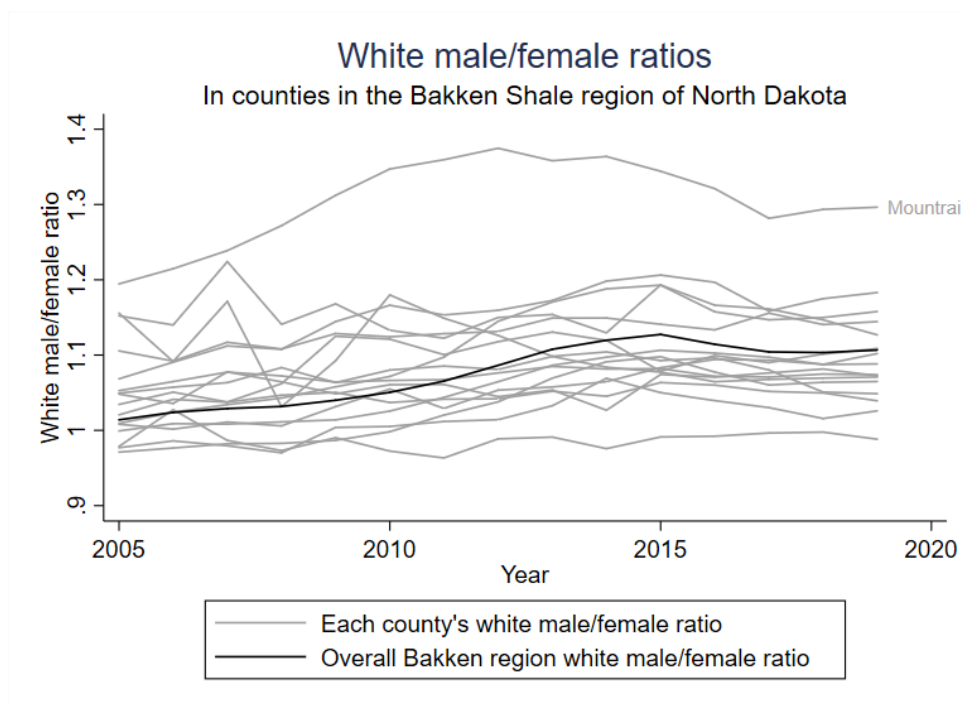
(a) AIAN



(b) White

Source: Data presented in this figure are for 2017 from the Census Bureau intercensal population estimates by race by county. Data used in empirical analysis is the same source but ranges from 2005 to 2017.

Figure A3: White American Male/Female ratios over time in Bakken Region of North Dakota:



Source: Data from Census Bureau intercensal population estimates by race by county from 2005 to 2019.

Table A1: Percent of deaths by race and gender among children

	White American		
	Boys	Girls	Overall
Percent of deaths ages 5 or younger	1.01%	0.79%	0.90%
Percent of deaths between ages 6 and 10	0.09%	0.07%	0.08%

	Native American		
	Boys	Girls	Overall
Percent of deaths ages 5 or younger	2.99%	2.71%	2.86%
Percent of deaths between ages 6 and 10	0.25%	0.24%	0.25%

Source: Author's calculations from the restricted-use NCHS mortality data.

As shown in Appendix Table A1, among Native Americans, 2.86% of deaths occur at age 5 or younger compared to less than 1% of deaths among white Americans. Appendix Table A2 and Appendix Table A3 show the twenty most common causes of death at age 5 or younger among Native Americans and White Americans.

Many of the twenty most common causes of death among the very young are similar among Native Americans and white Americans, with the majority due to Sudden Infant Death Syndrome, birth complications or congenital health issues. However, the percent of all deaths that occur from these causes at young ages is consistently higher among Native Americans - for example, SIDS accounts for .26% of all deaths among Native Americans but only .06% of all deaths among White Americans. Some of the causes of death are different - dying from assault, being in a car collision, and being hit by a car as a pedestrian are among the 20 most common causes of death for Native American children, but not White American children.

Table A2: Top causes of death among Native Americans who died at age 5 or younger

Cause of death from ICD-10 code	Deaths age 5 or younger	% of deaths 5 or younger	% of total deaths for all ages
Sudden infant death syndrome - SIDS (R95)	564	9.18	0.26%
Disorders related to short gestation and low weight (P07)	561	9.14	0.26%
Other ill-defined and unspecified causes of mortality (R99)	448	7.3	0.21%
Accidental suffocation and strangulation in bed (W75)	225	3.66	0.10%
New born affected by maternal complications of pregnancy (P01)	196	3.19	0.09%
Newborn affected by complications of placenta, cord and membranes (P02)	186	3.03	0.09%
Other congenital malformations of heart (Q24)	159	2.59	0.07%
Other congenital malformations, not elsewhere classified (Q89)	117	1.91	0.05%
Assault by unspecified means (Y09)	111	1.81	0.05%
Cardiovascular disorders originating in the perinatal period (P29)	109	1.77	0.05%
Edwards syndrome and Patau syndrome (Q91)	104	1.69	0.05%
Bacterial sepsis of newborn (P36)	92	1.5	0.04%
Other congenital malformations of brain (Q04)	83	1.35	0.04%
Motor- or nonmotor-vehicle accident (V89)	76	1.24	0.04%
Congenital malformations of the musculoskeletal system, not elsewhere classified (Q79)	75	1.22	0.03%
Necrotizing enterocolitis of newborn (P77)	74	1.21	0.03%
Respiratory distress of newborn (P22)	67	1.09	0.03%
Pedestrian injured in collision with car (V03)	61	0.99	0.03%
Congenital malformations of lung (Q33)	59	0.96	0.03%
Other respiratory conditions (P28)	56	0.91	0.03%
TOTAL deaths 5 and younger from all causes	6141	100	2.86%

Source: Author's calculations from the restricted-use NCHS mortality data.

Table A3: Top causes of death among White Americans who died at age 5 or younger

Cause of death from ICD-10 code	Deaths age 5 or younger	% of deaths 5 or younger	% of total deaths for all ages
Short gestation and low weight (P07)	31,521	12.34	0.11%
Sudden infant death syndrome - SIDS (R95)	15,845	6.2	0.06%
New born affected by maternal complications of pregnancy (P01)	12,597	4.93	0.04%
Other ill-defined and unspecified causes of mortality (R99)	10,424	4.08	0.04%
Newborn affected by complications of placenta, cord and membranes (P02)	8,399	3.29	0.03%
Edwards syndrome and Patau syndrome (Q91)	7,424	2.91	0.03%
Cardiovascular disorders originating in the perinatal period (P29)	7,077	2.77	0.02%
Other congenital malformations of heart (Q24)	6,808	2.67	0.02%
Accidental suffocation and strangulation in bed (W75)	5,875	2.3	0.02%
Bacterial sepsis of newborn (P36)	5,156	2.02	0.02%
Respiratory distress of newborn (P22)	4,706	1.84	0.02%
Other congenital malformations, not elsewhere classified (Q89)	4,626	1.81	0.02%
Intracranial nontraumatic haemorrhage of newborn (P52)	3,799	1.49	0.01%
Congenital malformations of the musculoskeletal system, not elsewhere classified (Q79)	3,519	1.38	0.01%
Congenital malformations of aortic and mitral valves (Q23)	3,408	1.33	0.01%
Anencephaly and similar malformations (Q00)	3,363	1.32	0.01%
Congenital malformations of lung (Q33)	3,314	1.3	0.01%
Necrotizing enterocolitis of newborn (P77)	3,257	1.28	0.01%
Other respiratory conditions originating in the perinatal period (P28)	3,188	1.25	0.01%
Other congenital malformations of brain (Q04)	3,165	1.24	0.01%
TOTAL deaths 5 and younger from all causes	255,444	100%	0.90%

Source: Author's calculations from the restricted-use NCHS mortality data.

Table A4: Table of Means for Outcome Variables and M/F Ratios

	White American women & girls	White American men & boys	Native American women & girls	Native American men & boys
Age at death	77.46	70.65	64.49	57.95
Died by homicide	0.002	0.006	0.009	0.025
White M/F ratio	0.98	0.98	1.01	1.01
AIAN M/F ratio	1.06	1.06	1	1

Source: Restricted-use NCHS mortality data and intercensus population estimates, 2005 to 2017.

In Table A4 we calculate the averages of our outcome variables (age at death and whether a person died by homicide ¹) and the M/F ratio (by race) in the county a person died. This table of means aggregates all years and observations to compute these averages. The difference in average age at death persists. Additionally, among both men and women, the proportion of Native Americans who died by homicide is four times that of White Americans. The average White death occurred in counties with White M/F ratio of 0.98 and a AIANNH M/F ratio of 1.06. Among Native American deaths, the difference in the ratio was less pronounced, with both White American and American AIANNH M/F ratios close to 1.

¹“Homicide” in this context is a manner of death, not a legal or criminal designation. A homicide is a death from a “volitional act committed by another person to cause fear, harm, or death.” It does not imply there was intent to cause death.

Table A5: Regression results for Women's Age at death (in years) by the White American M/F ratio (ages 15 to 39) and AIANNH M/F ratio (ages 15 to 39)

	Native American women age at death	White American women age at death
White M/F ratio from (ages 15 to 39)	-1.855 (2.056)	
AIANNH M/F ratio from (ages 15 to 39)		0.00253 (0.0151)
Constant	65.74*** (2.215)	77.23*** (0.0273)
Observations	96,353	14,193,860
R-squared	0.071	0.023

Source: Restricted-use NCHS mortality data and intercensus population estimates, 2005 to 2017. All regressions include county and year fixed effects. Standard errors are in parentheses and clustered at the county level. Data: Restricted-use NCHS data and intercensus population estimates, 2005 to 2017. Significance stars: *** p<0.01, ** p<0.05, * p<0.1

Table A6: Regression Results for Native Americans - Having died by an “unspecified cause” on the white American male/female ratio and the American Indian, Alaska Native, Native Hawaiian, and Pacific Islander male/female ratio

	Women & Girls		Men & Boys	
	(1)	(2)	(3)	(4)
White male/female population ratio from 2005-2017	0.791*** (0.0410)		0.446*** (0.0357)	
American Indian, Alaskan Native, Hawaiian, and Pacific Islander male/female ratio from 2005-2017		0.142*** (0.0239)		0.0974*** (0.0188)
Constant	-0.540*** (0.0412)	0.110*** (0.0238)	-0.240*** (0.0359)	0.111*** (0.0189)
Observations	96,353	96,353	116,550	116,550
R-squared	0.636	0.635	0.544	0.544

Source: Restricted-use NCHS mortality data and intercensus population estimates, 2005 to 2017. All regressions include county and year fixed effects. Linear probability model used. Standard errors are in parentheses and clustered at the county level. Data: Restricted-use NCHS data and intercensus population estimates, 2005 to 2017. Significance stars: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$